

JOHN E. THROPP'S SONS COMPANY v.
SEIBERLING.

CERTIORARI TO THE CIRCUIT COURT OF APPEALS FOR THE
THIRD CIRCUIT.

No. 185. Argued January 21, 22, 1924.—Decided April 7, 1924.

1. Patent No. 941,962, granted to one State, November 30, 1909, claims 4-7, inclusive, 12, 13, and 22-26, inclusive, for the making of the outer shoes or casings of pneumatic automobile tires composed of woven fabric treated with rubber, is void for lack of invention, viewed either as a mechanical or as a method patent. P. 327.
2. The fact that wide and successful use of a device has been made under license from the patentee may be evidence of patentable novelty, but is by no means conclusive and must be weighed in the light of all the circumstances. P. 329.

284 Fed. 746, reversed.

CERTIORARI to a decree of the Circuit Court of Appeals holding the respondent's patent valid and infringed by the petitioner and reversing a decree of the District Court which dismissed the respondent's bill to enjoin infringement.

Mr. Livingston Gifford, with whom *Mr. E. Clarkson Seward* and *Mr. Thomas G. Haight* were on the briefs, for petitioner.

Mr. Melville Church, with whom *Mr. Luther E. Morrison* was on the brief, for respondent.

Mr. Harry Frease, by leave of Court, filed a brief as *amicus curiae*.

MR. CHIEF JUSTICE TAFT delivered the opinion of the Court.

This is a suit to enjoin the infringement of a patent for the making of the outer shoes or casings of pneumatic automobile tires, composed of woven fabric treated with rubber. We have brought it here because of a conflict of opinion between the Circuit Courts of Appeals of the Sixth and the Third Circuits.

The suit in each Circuit was begun by Frank A. Seiberling, as assignee. That in the Sixth Circuit was filed in 1914 against the Firestone Tire and Rubber Company, and was based on alleged infringement of three claims of a patent to Seiberling and Stevens, No. 762,561, of June 14, 1904, and sixteen claims of a patent to one State, No. 941,962, dated November 30, 1909. The District Judge found both patents valid and infringed, 234 Fed. 370. The Firestone Company appealed and the Circuit Court of Appeals for the Sixth Circuit reversed the District Court, holding that all the claims of the State patent were invalid, and that of the three claims of the Seiberling and Stevens patent, two were invalid and one was not infringed. 257 Fed. 74. The bill in the case before us was brought in 1914 in the District of New Jersey on the same two patents. After the decision in the Sixth Circuit in December, 1918, the plaintiff Seiberling filed in the Patent Office a disclaimer absolute as to eight claims of the State patent and qualified as to the other eleven. No proofs were made in this case to sustain suit upon the Seiberling and Stevens patent, State, the patentee of the other patent, having testified that it had failed. The District Judge dismissed the bill on the ground that the effect of the disclaimers on the State patent was to change it from a machine patent and to make it a method or process

patent, and that the method was old. On appeal to the Circuit Court of Appeals for the Third Circuit, a majority of that court held that the record herein in respect to the State patent was substantially different from that in the Sixth Circuit, and that the State patent as qualified by the disclaimers was valid and infringed. The third Judge dissented on the ground that the disclaimers were of such a character as not to be permitted by the statute.

The making of rubber tires for automobiles began by hand and the proof seems to show that, while power and complicated mechanism have been applied to secure much greater speed in production and possibly greater uniformity in the product, there is even now no successful device for their completely automatic manufacture.

A hand tire was framed on an annular metallic core of the proper size, with spokes and a hub mounted and revolving on a shaft. It was made up of layers of fabric stuck together by a proper adhesive material and formed into a tube with a narrow opening on the inside, called the bead. The ends of the tube were united together to make it circular and endless. The layers were arranged to give a solid rubber tread along the outer periphery to make contact with the road. The workman began by coating the core with a suitable cement, and affixed a strip of the rubber impregnated fabric, stretching it and cutting it so as to cover the circumference of the core. In width it was somewhat less than enough to cover the sides of the core. He then revolved the core slowly, patting and stretching the woven strip on it, pressing and shaping it with his fingers and hand tools so that it adhered smoothly to the core without wrinkles. He followed this with another strip of fabric attaching it to the one before by the rubber cement. This operation he repeated with as many layers as were needed.

The strips of the fabric were cut on the bias, and the warp threads of one strip when set in place were intended

to run from one inner open edge or bead, in a diagonal course, along, across and around the tube to its other open edge or bead. The next strip or layer was reversed so that its warp threads crossed those of the first strip at a selected angle.

There was no difficulty in making the part of the layer on the tread easy and smooth because the curvature there was small, but as the fabric was pressed against the sides and inside of the core, it tended to bagginess and did not lie so smoothly. It would gather and wrinkle. This if carried into the permanent condition of the fabric would greatly weaken the tire. The tendency of woven material, however, is to contract in one direction as it stretches in another. The fabric lengthens circumferentially as it is stretched on the outer periphery. The square meshes thus become diamond shaped along the tread. There is a corresponding longitudinal contraction in the fabric as it is stretched laterally down the sides, so that its shrinking will be greatest as the edges are approached. Thus the wrinkling and bagginess of the fabric may by proper treatment with hand and tool be made to disappear and the strip be shaped smoothly to the sides and beads of the core surface.

At first, the skirts of the fabric were stretched radially along the sides of the core and treated by a saw-tooth tool to avoid wrinkles and then a spinning roll or wheel was spun along the fabric down the core side in a spiral course. There was thus given to the fabric what was called the double stretch and this was supposed to give greater strength and smoothness to the fabric as set upon the core. The workmen, however, found that they could work more rapidly and with less pains if they gave up the saw tooth stretch and depended only on the use of the spinning wheel with which, by increasing the hand speed of the core, they could smooth the fabric against the core without wrinkles. The spinning or stitching of the sides

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by the rapid revolution of the core had been previously shown in the kindred art of shaping thin metal sheets over a power driven core. The evidence was that rotation of the core by hand to a speed of fifty or sixty revolutions a minute would give a centrifugal tendency to the skirt of the fabric, keeping it away from the core. By thus doing what the foremen of the shops at first deprecated, the workmen developed a successful improvement in the hand making of tires. The spinning was usually done one side at a time; but powerful workmen were known to work the spinning wheels together on both sides of the core. The spinning of the fabric by rotating the core rapidly was more usual in tires of smaller sizes because the fabric was so stiff that such a method by hand in larger tires was impracticable.

One of the early power machines to make tire casings was patented to Moore in 1894. It disclosed an expandible core upon which an endless rubber fabric was placed and stretched. The core was rotated rapidly by power and the fabric was rolled down by a set of rollers of which one was a spinning roller. This was pivoted to swing radially toward the core but the handle of the spinning wheel was so fixed that it could not travel as far down as the bead.

The Seiberling and Stevens patent of 1904 for making tires sought to do the work of fitting the fabric to the core wholly by machinery, i. e., automatically without the intervention of the hand of the operator. It comprised:

- 1st. A main power driven shaft to drive the core capable of low or quick revolutions, or entire release,
- 2nd. A reel carrying the rubber impregnated strip,
- 3rd. A tension roller retarding the reel and stretching the fabric on the periphery after the free end is attached to the core,
- 4th. A pressure roller concave in form to match the tread of the strip and press it to the core as it revolves

5th. An arm carrying a laterally spring pressed finger called a jigger finger intended to be reciprocated rapidly, radially of the core, travelling in and out between the tread and in its outer edge, functioning like a human finger in pressing the fabric down against the core and stretching it into shape; and,

6th. A further pressure wheel or spinning roller applied along the edge of the fabric to press it into a crease. The spinning roller was set in a plane at a receding angle to the plane of the core.

The evidence in this record shows that Seiberling and Stevens' device was not successful in its operation and that the automatic operation of the finger was not effective.

The Vincent patent of 1905 had a power driven core, to draw and stretch the fabric with guide rolls through which the fabric was led on its way to the core and which were geared so as to resist the pull of the fabric. As soon as the fabric was spread circumferentially on the core, its skirts or edges were formed down the sides by two sets of spring actuated hammers, arranged progressively in a radial direction so that as the core rotated the fabric was tapped on the sides from their outer portion inwardly toward the bead. This device seems to have had considerable commercial use.

The Matherne Belgian patent of 1906 had a core arranged to be power driven at high and low speeds effected by changing gears, the ratio between the two being 20 to 1. It had a stock roll from which the fabric passed at a tension around guide rolls and between conical gears to secure uniform puckers in the outer edges of the fabric and to hold it out from the core as its middle is delivered circumferentially to become the tread. A screw fed slide was arranged to be moved radially to the core, having suspended on pins a pair of spinning rolls, the handles of which enable the operator to press them laterally against

the skirts of the fabric on the core during their inward radial movement.

The Belgian Mathern patent is attacked as a paper patent because it was allowed to expire through failure to pay the annual Belgian tax. The evidence shows, however, that in 1911 it was offered commercially to the Hood Company which preferred a German patent of the same inventor, and the Belgian machine was actually used for the making of tires which proved to be commercially satisfactory. We do not doubt from the record that it was a practical tire-making machine.

The State patent was applied for March 26, 1909. It was of the same general type as that of Seiberling and Stevens. State's most substantial change was that he discarded the reciprocal, spring-pressed, in and out forming-finger of Seiberling and Stevens and substituted spring-pressed spinning rolls which he supplemented with stitching rolls if needed. He provided, in the same general way as Seiberling and Stevens, a core, a fabric reel, a retarding or tension device, whereby he attached his strip of fabric to the core for the width of the tread portion, leaving the skirts or wings projecting outwardly. Fixed to the base of the frame carrying the core was a standard travelling in a horizontal track with a turret, having four tools mounted at four equidistant points and independent of each other except for their common base. One carried a tread roller, the second the spinning rollers, the third the stitching rolls and the fourth the bead attaching rolls. The operator revolved the turret so as to make the tread roller bear against the tread on the core, then the spinning roll device, then the stitching roll and then the bead forming roll, the latter two of which were not always used. There was no real combination of the operation of the four tools. It was an aggregation not different from a successive use by an operator of hand tools, and so the Circuit Court of Appeals

of the Sixth Circuit held. This was what led to the disclaimer of eight of the claims. It possibly gave the change in the character of the record and proof in this case from that in the Sixth Circuit as remarked upon by the Circuit Court of Appeals of the Third Circuit.

Eleven claims are left. While qualified by disclaimers, consideration of the original claims will serve our purpose. Claims 4, 5, 6 and 7 are for combinations of a sheet fabric supply, a power driven ring core, a radially moving support laterally spring-pressed toward the core, with a spinning roll mounted on the support to shape the sheeted fabric to the core. The variety in the claims is in adding to the spinning roll the element of a receding angle to the plane of the core in the 5th, in giving the spinning roll a round disk shaped edge in the 6th, in giving both the receding angle and the disk shaped edge to the spinning roll in the 7th.

Claims 12 and 13 comprise in their combinations all the above and the slow speed mechanism for actuating the core when the fabric is received from the stock roll, and the high speed mechanism for the spinning rolls to pass over the fabric on the core and shape it.

Claims 22, 23, 24, 25 and 26 cover the same combinations save that they emphasize the feature of the radially moving support of the spinning roll which is power-pressed toward the core.

There was no novelty in the combination of a power-operated core with fabric rolls for delivering the rubber impregnated strips through tension rolls to the core, or in the use of pressure rolls to stretch and press the tread at the slow speed of the core followed by the spinning of the stretching or spinning rolls with high speed down the sides from the outer line of the tread to the bead edge of the fabric, or in the use of the tangential force upon the skirts of the fabric to keep them away from the core. The use of power to revolve the core was seen

in earlier patents in Seiberling and Stevens, in Vincent, and in the Belgian Mathern. The change of speed from slow to rapid revolution by shifting of the gears was shown in the first and third of these. The receding angle of the spinning roller to the plane of the core was not new with State. It was seen in Seiberling and Stevens.

The operation of the spinning wheel in the State patent is said to be automatic. We do not find it to be so. It is partly automatic in that the spinning rolls, when properly placed, are brought closer to the fabric by the springs. The Belgian Mathern device is partly automatic in an analogous way. But when the process of spinning is carried to its completion, the adjustment and pressure of the wheels to the fabric as it approaches the bead edge, need the hand of the operator just as in the hand-making of tires. It is true that the spinning rolls in all these patents are steadied against the fabric in one way or another, as by the power-pressed radially moving support in the State patent; but in the end the hand is needed to complete the spinning process as it nears the bead edge. We do not think that the use of the springs by State in such a combination involves patentable invention when we weigh its inconsiderable importance and note the suggestion of the use of such springs for analogous purposes in Vincent, and in Seiberling and Stevens.

The change from hand to the use of machinery often involves invention. In the making of tires, it has in fact resulted, because of the use of power, in speed of manufacture and possibly in some greater uniformity of the product. But the record does not show that there has been substantial change in the mechanics or method of making. The steps are the same and the succession from one to the other are as in the manual art, and the transfer from hand to power was by the usual appliances and had all been indicated before the State patent.

These conclusions as to the lack of novelty in the elements and combinations of the State patent were reached by the Circuit Court of Appeals for the Sixth Circuit and we agree with them.

The majority opinion of the Third Circuit Court of Appeals in this case attributed much importance and novelty to the effect of the centrifugal force of the revolving core upon the fabric. Its view was that State had discovered that the fabric was thus substantially stretched radially as the spinning wheels hinged against the flowing fabric, and the square meshes on the sides were elongated substantially by the centrifugal force so that at the bead they were lozenge shaped and easily smoothed. We do not find such a new result, or anything different from what was shown in the making of tires by hand. If there were such a newly-developed, substantial addition to the stretching of the material by tangential force, it must have occurred in the Mathern Belgian patent before State. But we find it in neither. The discovery of such a new source of radial stretching power is not testified to by the experts in either hearing.

We are pressed with the argument that many tires, reaching into the millions, have been made under a license granted by Seiberling, and that the success of the device shows the utility and novelty of what he licensed. He gave to his licensees not only the use of the State patent but also that of the Seiberling and Stevens patent. Both patents made large and sweeping claims which were well calculated to induce acquiescence by those without sufficient knowledge of the prior art, or adequate capital to resist. Yet the more comprehensive claims of the State patent have now been disclaimed and the Seiberling and Stevens patent included in his licenses has been abandoned. There has been a complete change about in the Third Circuit law suit. Mr. Seiberling, when these licenses were

granted, was at the head of the great Goodyear Company. He could give great vogue to a device owned and used by him. The license was not a heavy tax, equal to less than one per cent. of the cost of a machine, and purchase of peace was a wise course for the smaller manufacturer. Evidence of this kind is often very persuasive, especially when patentable novelty is in doubt. *Potts v. Creager*, 155 U. S. 597, 609; *Magowan v. New York Belting Co.*, 141 U. S. 332, 343. But it is by no means conclusive, and must be weighed in the light of all the circumstances, to accord to it its proper significance. *Eibel Process Co. v. Minnesota Paper Co.*, 261 U. S. 45, 56; *McClain v. Ortmayer*, 141 U. S. 419, 428. In the case before us, we do not think it can overcome the lack of novelty and invention.

Seiberling disclaimed combination claims of 4, 5, 6 and 7, except when constructed and coördinated in a certain way. He disclaimed claims 12 and 13 except for the combined operations of a certain kind and unless the recited elements were constructed and coördinated as he described. He disclaimed claims 22, 23, 24, 25 and 26, except when constructed and coördinated for a particular purpose and unless the power drive functioned as he pointed out. As we have found that there is nothing really new in the method or mechanism of State, it will serve no purpose to go through the qualifying disclaimers in detail and consider their effect.

The disclaimers are attacked on the ground that they exceed the legal function of a disclaimer and are an attempt to change a mechanical patent to a process or method patent, something which could only be properly accomplished by a reissue. The Circuit Court of Appeals for the Sixth Circuit examined the possibility of sustaining the alleged invention of State as a process or method patent but concluded that it was fully anticipated by the method of making tires by hand. We do not find it

necessary to pass upon the validity of the method of making disclaimers here pursued, because we agree with the Sixth Circuit Court in failing to find invention in the State device either as a mechanical or as a method patent.

The decree of the Circuit Court of Appeals is reversed and the case is remanded to the District Court with directions to dismiss^{*} the bill.

Reversed.
